OCCURRENCE OF *FITTKAUIMYIA* (DIPTERA: CHIRONOMIDAE: TANYPODINAE) IN TEXAS[1]

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ABSTRACT: Recent collections of *Fittkauimyia* larvae from three localities in Texas constitute the first documented Nearctic occurrence of the genus outside Florida. Larvae were found in shallow, slack water areas of small prairie streams, in association with submerged wood. The nature of occurrence suggests that *Fittkauimyia* is widespread, although not abundant, in eastern Texas.

The little known chironomid genus *Fittkauimyia* Karunakaran appears to be of tropical-subtropical origin (Fittkau and Roback, 1983). It has been reported from scattered localities in Indonesia, Australia, Africa, and South America, with previous Nearctic records restricted to Florida (Roback, 1982; Fittkau and Roback, 1983; Hudson *et al.*, 1990). The genus is not yet known from the Palearctic (Ashe *et al.*, 1987; Ashe and Cranston, 1991).

During recent water quality studies, I have collected *Fittkauimyia* larvae on five occasions from three localities in Texas:

TARRANT COUNTY: West Fork Trinity River at Beach Street in Fort Worth, 25 July 1987, 6 October 1987, 21 June 1988; DALLAS COUNTY: Elm Fork Trinity River at SH 356 in Dallas, 11 October 1988; GUADALUPE COUNTY: Geronimo Creek off FM 20 N Seguin, 10 April 1990.

Fittkauimyia larvae are distinguishable from other Tanypodinae by characteristics of the mandible, ligula, and dorsomentum. No other larvae have a similar arrangement of teeth on the mandible (Fig. 1) (*Derotanypus* also possesses accessory mandibular teeth, but only on the dorsal side). The inner teeth of the ligula are incurved on the outer margins, and thus appear inclined toward the middle tooth (Fig. 2). The dorsomental plates are joined mesially as in *Tanypus*, but differ in that adjacent, lateral plates are present (Fig. 3).

In most morphological respects, the Texas specimens closely resemble *Fittkauimyia* sp. 2 Roback (1982), which is known only as larvae from Florida and is a possible synonym of *F. serta* (Roback). The latter species originally was ascribed to *Parapelopia* Roback (1971), now tentatively considered a junior synonym of *Fittkauimyia* (see Roback,

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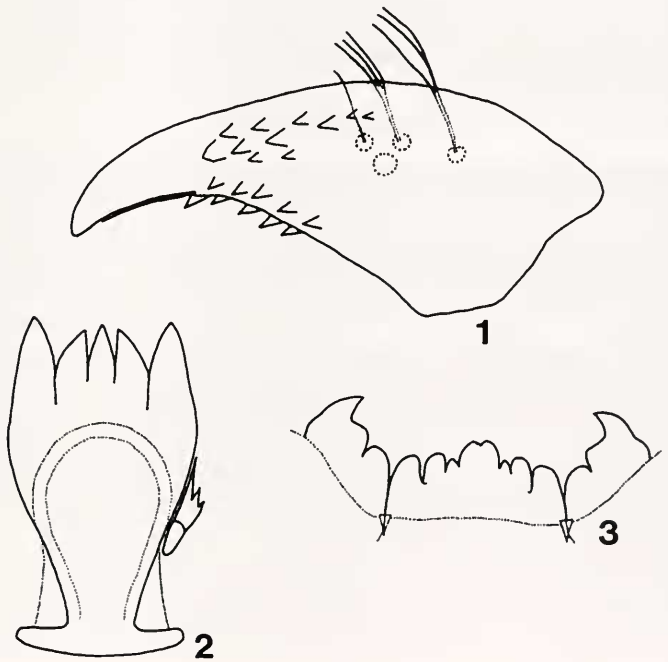
1982). *Fittkauimyia serta* is known only as adult males from Florida; larvae and pupae have not been associated with the adults.

Fittkauimyia larvae have been reported from streams and the littoral of lakes (Fittkau and Roback, 1983), and in Florida have been found primarily in shallow water with mixed emergent vegetation, particularly freshwater marshes (Hudson *et al.*, 1990). The Texas records are from small prairie streams less than 10 m wide and 1 m deep, with base flows < 0.5 m^3/s. Specimens were found in glides or shallow pool environments with slow current velocities. Water quality was generally good, and associated macrobenthic communities were healthy. The Trinity sites, which are near one another, are channelized and slightly influenced by urban runoff. The Geronimo Creek site, about 350 km to the south, is unmodified and relatively pristine.

Fittkauimyia larvae were relatively scarce in the five collections, with total numbers obtained ranging from 3 to 47. Specimens were collected



Figures 1-3. Features of fourth instar *Fittkauimyia* larvae from Texas. 1. Mandible. 2. Ligula and paraligula. 3. Mentum.

on modified Hester-Dendy artificial substrates at the Trinity sites, and by handpicking from submerged wood, primarily underneath loose bark on logs, in Geronimo Creek. At the latter site, none occurred in kick net samples from riffles or sweep net samples from stream margins. Based on personal observations and information from the literature, the preferred microhabitat appears to be in association with emergent macrophytes or decomposing wood in shallow, quiet waters.

The aforementioned successful collecting techniques have not been widely employed in the state, which may partially account for the lack of previous records. The paucity of selective collecting and the substantial distance between the Trinity and Geronimo Creek sites suggest that *Fittkauimyia* is widespread in eastern Texas, although in relatively low numbers. Its presence further substantiates the importance of Neotropical influence on derivation of the aquatic invertebrate fauna of Texas.

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